Remarks

Reconsideration of the above-identified application is respectfully requested.

Claims 1, 3, 4, 8-13 and 20-22 stand rejected under 35 U.S.C. 103(a) as being obvious over AAPA in view of Sitte and Adamson et al. Applicants propose to amend claim 1 as shown above to delete the recitation of a "repeater" in the final clause. Entry of this amendment is respectfully requested.

Applicants respectfully submit that the instant rejection is based on the Examiner's mistaken understanding of Sitte. In particular, with respect to the rejection of claim 1, the Examiner asserts that Sitte discloses an "end termination" at column 16, lines 1-4.

However, contrary to the Examiner's understanding, Sitte does not disclose an end termination within the meaning of the present application. According to the application, applicants' claimed end termination is a termination hub 42 which is connected to the last cable section in the cable bus (paragraph 31, lines 2-4 and paragraph 33, lines 19-20). In addition, the end termination is used to electrically "terminate" the cable bus (paragraph 31, lines 3-4).

In contrast, Sitte's "termination connector" is simply a common cable connector which serves to connect two cables together. First, Sitte states that the termination connector is provided at the distal end of cable 740 (column 16, lines 1-4). Second, Sitte specifically states that this termination connector is used to connect the cable 740 to another connector (column 16, lines 4-7).

Thus, it is clear that Sitte's termination connector is not connected to the last cable section in the cable bus. Rather, the termination connector is connected between the sensor 700 and the cable bus (which comprises a T-connector 754 and cable sections 760 and 762) (see Figure 11). In addition, since this termination connector is positioned between the sensor 700 and the cable bus 754, 760, 762, it necessarily cannot be used to electrically terminate the cable bus.

With respect to claim 1, therefore, Sitte does not disclose an end termination. Thus, claim 1 is clearly patentable under 35 U.S.C. 103(a) over any permissible combination of AAPA, Sitte and Adamson. Furthermore, since claims 3, 4, 8-13 and 20-22 depend from claim 1, these claims are also patentable over an permissible combination of AAPA, Sitte and Adamson for the reasons stated above.

Claims 16, 17 and 19 stand rejected under 35 U.S.C. 103(a) as being obvious over AAPA in view of Sitte and Longsdorf et al.

Applicants respectfully submit that this rejection is based on the Examiner's mistaken understanding of Sitte. In particular, with respect to claim 16, the Examiner asserts that Sitte discloses: (1) a junction in Figure 1 at ref. 20 and in Figure 11 at refs. 220, 230, 710, 712; and (2) at least two control signal supply cables extending between the junction and the electrical connector, e.g., in Figure 11 between the junction and the electrical connector (citing Figures 1 and 11; column 4, lines 39-45; column 7, line 8 to column 8, line 51; and column 15, line 18 to column 17, line 49).

However, contrary to the Examiner's understanding, reference 20 in Figure 1 and references 220, 230, 710 and 712 in Figure 11 do not comprise a junction within the meaning of the present application. Reference 20 is an intelligent multiple port interconnect system which functions to connect a number of devices 22, 26, 30, 34 to a two-wire communication bus within cable 10 (column 7, lines 43-52). In addition, Sitte does not disclose how this device is actually wired to the two-wire communication bus within cable 10. Therefore, the Examiner's reliance on reference 20 in the present rejection is misplaced.

Similarly, references 220, 230, 710 and 712 in Figure 11 do not comprise a junction. Sitte specifically teaches that references 220, 230, 710 and 712 are a microprocessor, a CAN protocol chip, a ROM and a RAM, respectively (column 15, lines 32-43). Nowhere does Sitte suggest that these components are a junction.

Furthermore, references 220, 230, 710 and 712 cannot comprise a junction within the meaning of claim 16 because they do not form part of the cable unit. Claim 16, line 12 specifically defines the junction as being part of the cable unit ("wherein said cable unit comprises a junction . . ."). In contrast, Sitte teaches that references 220, 230, 710 and 712 are part of the sensor 700.

In this regard, it should be noted that Sitte's cable unit is comprised of a T-connector 754 and cable segments 760, 762. For purposes of illustration, the attached Appendix depicts a modified version of Figure 11 in which the sensor 700 is shown separated from the cable unit 754, 760, 762. From this illustration one can clearly see that the components 220, 230, 710 and 712 do not form part

of the cable unit 754, 760, 762. Instead, components 220, 230, 710 and 712 are internal to the sensor 700 (see column 15, lines 32-42). Therefore, these components cannot define a junction within the meaning of claim 16.

Furthermore, contrary to the Examiner's understanding, Sitte's cable unit 754, 760, 762 does not comprise two control signal supply cables. The cable unit 754, 760, 762 comprises a total of four wires: two power wires 770, 772 and two signal wires 780, 782 (column 16, lines 19-21). In addition, the sensor 700 comprises a transceiver 730 to which two signal wires 746, 747 are connected. When the T-connector 754 is connected to the sensor, signal wire 780 is connected to signal wire 746 and signal wire 782 is connected to signal wire 747 (column 16, lines 38-40). Thus, at least one of the signal wires 780, 782 must be a control signal return wire. Consequently, the cable unit 754, 760, 762 necessarily comprises only one control signal supply cable, not two as required by claim 16.

Therefore, contrary to the Examiner's understanding, Sitte clearly does not disclose a junction or two control signal supply cables extending between the junction and an electrical connector, as required by claim 16.

Furthermore, contrary to the Examiner's assertion, Longsdorf does not disclose a cable which is electrically joined at a connector. In the context of the present invention, the term "electrically joined" can be interpreted as "directly electrically connected". Referring to Figure 7 of the application, for example, each pair of control signal supply lines 94a, 94b; 98a, 98b; and 106a, 106b is shown to be directly electrically connected at a corresponding connector 90a,

90b, 90n. In contrast, Figure 1 of Longsdorf teaches that the process link or bus 12 is connected to the communications circuitry 42 at two distinct link terminals 40. Similarly, in Figure 2, which is a specific embodiment of the invention shown schematically in Figure 1, the link terminals are separated by a resistor 62, a modulator 70, a diode 84 and another resistor 86. Therefore, Longsdorf does not teach that a cable can be electrically joined at a connector.

Therefore, claim 16 is clearly patentable under 35 U.S.C. 103(a) over any permissible combination of AAPA, Sitte and Longsdorf.

With regard to claim 17, Sitte's cable unit 754, 760, 762 clearly does not comprise two control signal <u>return</u> cables in addition to two control signal <u>supply</u> cables. As discussed above, the cable unit 754, 760, 762 comprises a total of two signal wires, namely signal wires 780, 782. In this regard, it should be noted that wires 770, 772 are power wires, not signal wires. Since Sitte's cable unit 754, 760, 762 comprises only two signal wires, it cannot possibly comprise two signal supply wires <u>and</u> two signal return wires.

Therefore, claim 17 is clearly patentable under 35 U.S.C. 103(a) over any permissible combination of AAPA, Sitte and Longsdorf.

With regard to independent claim 19, the Examiner asserts that Sitte discloses a cable unit which comprises a junction, at least one electrical connector and at least two control signal cables. The Examiner further asserts that Longsdorf discloses a cable which is connected to a connector in a current loop. The Examiner therefore concludes that it would have been obvious to the

person of ordinary skill in the art to incorporate Sitte's cable unit and Longsdorf's current loop into the control system of AAPA.

However, contrary to the Examiner's understanding, Longsdorf does not appear to disclose a current loop. As shown in Figure 1, process link 12 appears to connect the process transmitter 10 with the process device 50 and the controller 51 in parallel. In addition, although Longsdorf states in column 4, lines 14-16 that the process link could comprise a daisy chain, such an arrangement is not shown in any of the embodiments. Therefore, the Examiner's reliance on this disclosure would be misplaced.

Therefore, claim 19 is patentable under 35 U.S.C. 103(a) over any permissible combination of AAPA, Sitte and Longsdorf.

For the foregoing reasons, claims 1, 3, 4, 8-13, 16, 17 and 19-22 are submitted as allowable. Favorable action is solicited.

Respectfully submitted,

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Appendix A

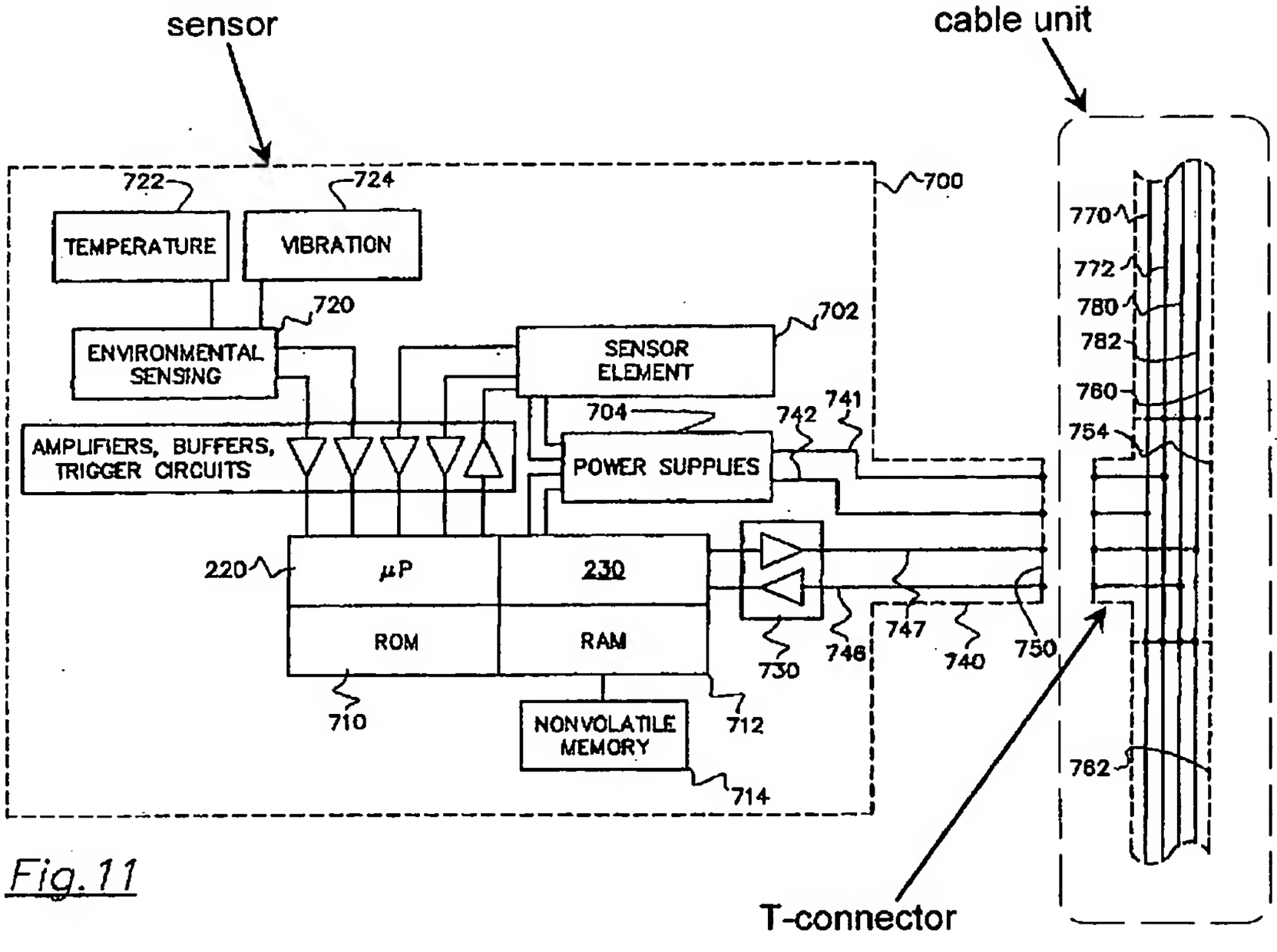

Fig. 11